PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Antoine MOULIN, et al.

Docket No: Q86683

Appln. No.: 10/526,378

Group Art Unit: 1733

Confirmation No.: 3827

Examiner: George P WYSZOMIERSKI

Filed: January 13, 2006

For: VERY HIGH MECHANICAL STRENGTH STEEL AND METHOD FOR MAKING A SHEET OF THEREOF COATED WITH ZINC OR ZINC ALLOY

DECLARATION UNDER 37 C.F.R. § 1.132

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Antoine Moulin, hereby declare and state:

THAT I am a citizen of France;

THAT I have received the degree of **Engineer** in **1994** from **Ecole Centrale de Paris** ;

THAT I have received the degree of **Doctor** in **1997** from **Ecole Centrale de Paris** ;

THAT I have been employed by USINOR since **15/7/1999**, where I hold a position as **Research Group Manager**, with responsibility for **Advanced High Strength Steels Development for Automotive Market;**

THAT I am a co-inventor of the above-identified patent application;

THAT I am familiar with US 2001/0001049 (Higo et al.); and

THAT the steels of US 2001/001049 are not dual-phase steels.

Dual-phase steels are have a low yield strength/tensile strength (YS/TS) ratio of about 0.5. *See* "Dual-phase steel" (http://en.wikipedia.org/wiki/Dual-phase_steel) attached hereto. However, the YS/TS ratios of Higo are higher than 0.5. This can be seen from the lower part of Fig. 1 of Higo where the steels of have a YS/TS ratio which is between 0.8 and 0.95, according to the cold rolling reduction ratio undergone by the strip. In addition, the figures of Tables 2, 4, 6, and 8 also show that the steels of Higo have YS and TS values relatively close one to each other, and as a result YS/TS ratios are higher than 0.5.

Furthermore, in the lower part of Fig. 1 of Higo, there is a linear increase of the tensile strength and the yield strength when the cold-rolling reduction rate is itself increased. A dual-phase steel has quite a different a behavior - the strength(s) increase is at first linear, which corresponds to the deformation of ferrite, with a steep slope, and then from a given value of the reduction rate that corresponds to the beginning of the deformation of martensite, which is difficult to obtain, the strength increase is suddenly and considerably diminished. Accordingly, the slopes of the curves which would correspond to Fig. 1 of Higo become gentle. Thus, based on Fig. 1 of Higo, the steels of Higo are not of the dual-phase type because Higo shows that only one phase is significantly present as can be seen from the linearity of the curve.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 07/11/2011

Antoine Moulin